

REVISION OF THE AUSTRALIAN GENUS *MICROTROPESA* MACQUART
(DIPTERA: TACHINIDAE: TACHININI)

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The endemic Australian genus *Microtropesa* Macquart is revised and its 14 species keyed. *M. danielsi* sp. nov. and *M. longimentum* sp. nov. are described. *Microtropesa nigricornis* Macquart and *M. intermedia* Malloch are confirmed as valid. *Microtropesa flavitarsis* Malloch is considered a junior synonym of *M. obtusa* (Walker). The female of *M. viridescens* Paramonov and the male of *M. canberrae* Paramonov are described for the first time. The first instar larva of *M. intermedia* and the genitalia of males of most species are figured.

□ *Diptera, Tachinidae, Microtropesa, Australia.*

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Australian Tachinini are dominated by the endemic *Microtropesa* Macquart (Crosskey, 1973), specimens of which are up to 16 mm long and often with striking colour patterns on the thorax and abdomen. Malloch (1928, 1929, 1930) described five species and provided a key. Hardy (1939) dealt with a number of species described by earlier authors but omitted by Malloch and synonymised several names (many incorrectly). Hardy incorrectly synonymised *Tasnanomyia* Townsend with *Microtropesa* (Paramonov, 1951; Crosskey, 1973). Paramonov (1951) described four new species and provided a useful but incomplete key (three species discussed in the text were omitted from the key). Paramonov was unsure of the status of *M. intermedia* but thought it probably conspecific with *M. nigricornis*. These species have been regarded as distinct (Crosskey, 1973; Cantrell & Crosskey, 1989). Paramonov (1951) was also unsure of the identity of two species described by Walker (1853, 1858).

METHODS

Male genitalia were examined by detaching the terminal abdominal segments, immersing them in cold 10% KOH for 24–48 hours, washing in water and dissecting in 70% ethanol. The preparations were stored in glycerol in separate microvials. These were pinned next to the specimen and given duplicate labels.

Drawings of male genitalia and larvae were made with the aid of a compound microscope and drawing tube. Other drawings were prepared using a dissecting microscope and camera lucida.

Measurements of body length were taken from pinned specimens using a micrometer eyepiece.

TERMINOLOGY

Terminology follows Crosskey (1973) and the following abbreviations are used: A1, A2, A3 – 1st, 2nd and 3rd antennal segments; acr, acrostichal seta; dc, dorsocentral seta; fr, frontal seta; ia, intra-alar seta; mm, median marginal seta; ov, outer vertical seta; pfr, parafrontal; pf, parafacial; pro-orb, proclinate orbital seta; prst-acr, presutural acrostichal seta; prst-dc, presutural dorsocentral seta; prst-ia, presutural intra-alar seta; stp, sternopleural seta; St1, St2 – 1st and 2nd abdominal sternites; T1+2, 1st apparent abdominal tergite (= fused 1st and 2nd tergites); T3, T4, T5 – 2nd, 3rd and 4th apparent abdominal tergites. Head height is defined as the vertical dimension of the head, in lateral view, from the ocellar triangle to the peristome (Fig. 1C).

Abbreviations for depositories are as follows: Australian Museum, Sydney (AM); Australian National Insect Collection, Canberra (ANIC); Biological and Chemical Research Institute, Sydney (BCRI); British Museum (Natural History), London (BMNH); Institut für Pflanzenschutzforschung (formerly Deutsches Entomologisches Institut), Eberswalde, Germany (DEI); G. Daniels collection, Brisbane (GD); Muséum National d'Histoire Naturelle, Paris (MNHN); Queensland Department of Primary Industries, Brisbane (QDPI); Queensland Museum, Brisbane (QM); South Australian Museum, Adelaide (SAM); University of Queensland Insect Collec-

tion, Brisbane (UQIC); Western Australian Department of Agriculture, Perth (WADA).

SYSTEMATICS

Order DIPTERA
Family TACHINIDAE
Tribe TACHININI

Microtropesa Macquart, 1846

Microtropesa Macquart, 1846:313; Engel, 1925:344; Malloch, 1928:614; Malloch, 1929:286; Malloch, 1930:99; Hardy, 1939:33; Paramonov 1951:761; Crosskey, 1973:135; Cantrell & Crosskey, 1989:761.

Gerotachina Townsend, 1916:152. Type species *Tachina obtusa* Walker, 1853, by original designation. Synonymy by Hardy, 1939:33.

Tasmaniomyia Townsclnd, 1916; Hardy, 1939:33 (misidentification).

TYPE SPECIES. *Musca sinuata* Donovan, 1805, by monotypy.

DIAGNOSIS. Eyes bare, pf haired; A2 elongate, almost as long as A3 or longer (Figs 1C,D, 3C, 3G, 4D, 5A); ♀ with 2 pro-orb, absent in ♂; ♂ without ov; palpi normal. Thorax with at least 4+4 dc, 1+2 ia; propleuron haired; 2 or 3 (rarely 4) stp; pleurotergite with long, dense hairs; cell R5 open (Fig. 5B), rarely closed (Fig. 3H). Abdomen wider than thorax, normally subglobose with whitish or grey pollinose markings; T3 with or without mm, if present up to 5 pairs; sternites exposed, often with spiniform setae; aedeagus without epiphallus.

Females differ from males in having wider fore and mid tarsi, shorter claws and a conspicuously wider vertex.

REMARKS. The long, dense hairs on the pleurotergite distinguish *Microtropesa* from all other Tachinini except the New Guinean *Paratropeza* Paramonov, which is distinguished by an inflated abdomen with fused T3 and T4 and deeply excised T5 and by very strong spiniform setae on the abdomen and scutellum.

BIOLOGY. *Microtropesa flaviventris* Malloch parasitises the noctuid moths *Mythimna (Pseudaletia) convecta* (Walker) and *Persectania ewingii* (Westwood) (Crosskey, 1973). Hosts of other species of *Microtropesa* are unknown.

About 70% of specimens of *Microtropesa* in collections are males. This is due in part to the habit of males of some species of frequenting prominent mountain peaks and hilltops. Males of

M. sinuata and *M. violacescens* have been observed resting on the ground in exposed, sunny situations at the summit of hilltops and sometimes on prominent rocky outcrops.

The genus occurs mainly in the southern half of the continent (Fig. 7) with only *M. danielsi* sp. nov. and *M. violacescens* known north of 23°S.

KEY TO SPECIES OF *MICROTROPESA*

1. Mentum of proboscis longer than head height (Fig. 3G); wing with cell R5 closed (Fig. 3H) *longimentum*
- Mentum of proboscis shorter than head height (Figs 3C, 5A); wing with cell R5 open (Fig. 5B) 2
2. Base of wings with dark brown or black markings; lgs black 3
- Base of wings yellowish or orange, without dark brown or black markings; legs with at least femora yellowish or orange 4
3. Hairs on palpi mostly yellow *viridescens*
- Hairs on palpi black *skusei*
4. Dorsal surface of scutellum with yellow or orange-yellow hairs 5
- Dorsal surface of scutellum with black or dark brown hairs 7
5. Pf with black hairs extending below level of vibrissae, at most with a few orange-yellow hairs ventrally near eyes; head, in lateral view, with epistome projecting weakly (Fig. 1C); fr, dc and acr very weak and long, hair-like . . . *canberrae*
- Pf with black hairs (if present) not extending below level of vibrissae, usually at least ventral third (often much more) of pf with orange-yellow hairs; head, in lateral view, with epistome projecting more strongly (Figs 1D, 5A); fr, dc and acr strong, distinctly bristle-like 6
6. T3 of ♂, from above, with pair of submedian, grey, pollinose, anterior spots, rarely absent in ♀; ♂ with grey, pollinose triangle on T4 about as wide as distance between basal scutellar setae, narrower in ♀; prescutum usually with distinct pattern of whitish pollinose stripes and spots *sinuata*
- T3 of ♂, from above, without grey, pollinose spots; ♂ with grey, pollinose triangle on T4 about as wide as distance between subapical scutellar setae; prescutum with thin, shifting whitish pollinosity a little thicker surrounding anterior prst-dc; ♀ unknown *danielsi*
7. Dorsal surface of T5 with pair of dark-brown or black, submedian, spots separated from anterior margin and sometimes from similar ventral pair of dark spots by grey pollinosity (T5 often with bases of some setae black) (Fig. 3D) *latigena*
- Dorsal surface of T5 without dark-brown or

- black spots or if present, spots extend to anterior margin (Fig. 5C) or ventral surface of T5 (Fig. 4C) 8
8. T5 in caudal view with ground colour completely obscured by thick, grey pollinosity *campbelli*
 T5 in caudal view with ground colour not completely obscured by thick, grey pollinosity (eg. Figs 4C, 5C) 9
9. T3 without mm; mesoscutum with uniform, thin, whitish pollinosity 10
 T3 with mm; mesoscutum with distinct pattern of whitish, pollinose stripes and/or spots, at least on prescutum 11
10. Ground colour of abdomen yellowish with dark dorsomedial vitta (may cover most of dorsum of abdomen in ♀); pf with black hairs ventrally *flaviventris*
 Ground colour of abdomen red-brown to black; pf with orange-yellow hairs ventrally *violacescens*
11. Abdomen with whitish, pollinose markings restricted to median triangle or 'V' on T3; T4 and T5 with uniform, orange pollinosity; vertex of ♂ very narrow, distance between eyes about twice width of ocellar triangle *ochriventris*
 Abdomen with whitish or grey, pollinose markings on T3, T4 and T5; T4 and T5 without orange pollinosity; vertex of ♂ wider, distance between eyes approaching four times width of ocellar triangle 12
12. Thoracic pleura with black hairs restricted to dorsal mesopleuron, remainder with pale, yellow hairs; prescutum with three whitish, pollinose vittae, one median, and two submedian enclosing prst-dc *obtusa*
 Thoracic pleura with black hairs on pleurotergite, sternopleuron and most of mesopleuron; prescutum with median whitish, pollinose vitta, but each submedian vitta replaced by pair of whitish, pollinose spots enclosing anterior and posterior prst-dc 13
13. Pf and genae golden pollinose; ♂ with apex of cerci pointed, surstyli hook-like; ♀ often with dark areas on dorsal T4 and T5 connected *intermedia*
 Pf silver pollinose, genae golden pollinose; ♂ with apex of cerci blunt, surstyli blade-like; ♀ always with dark areas on dorsal T4 and T5 separated by grey pollinosity (Fig. 4C) *nigricornis*

***Microtropesa campbelli* Paramonov, 1951**
 (Fig. 7A)

Microtropesa campbelli Paramonov, 1951:768; Crosskey, 1973:135; Cantrell & Crosskey, 1989:761.

MATERIAL EXAMINED. HOLOTYPE ♀,

Blundell's, near Canberra, Australian Capital Territory, 30.ii.1931, T.G. Campbell (ANIC).

DIAGNOSIS. Body length: 10.3 mm. A3 ovoid, orange; pf with black hairs; genae with yellow hairs, except dorsally hairs black; prescutum with pattern of whitish pollinosity (precise pattern obscured by discolouration); wings light grey, bases orange-yellow; ground colour of abdomen yellowish brown except most mesal areas on T3 black; T3 and T4 with thick, grey, pollinose triangles, apex of triangle on T4 very broad enclosing most mesal setae of marginal row; T3 with single pair of weak mm; T5 entirely grey, pollinose with very weak, hair-like setae.

REMARKS. *M. campbelli* is the only species in which T5 is entirely grey pollinose. Only the holotype is known.

***Microtropesa canberraera* Paramonov, 1951**
 (Figs 1A-C, 7A)

Microtropesa canberraera Paramonov, 1951:771; Crosskey, 1973:135; Cantrell & Crosskey, 1989:761.

MATERIAL EXAMINED. HOLOTYPE ♀, Black Mountain, Canberra, ACT, 18.v.1942, T.W. Pickard (ANIC). OTHER MATERIAL EXAMINED. NSW: Paddy's R., nr Manulan (1♂, ANIC). S AUST: Talia (1♂, SAM).

DIAGNOSIS. Body length: 11.7-13.3 mm. ♂ cerci and surstyli as in Fig. 3A,B. Fr, dc and acr long, hair-like; very long hairs on pf, genae and thorax; pf with extensive black hairing, extending below level of vibrissae; epistome weakly projecting (Fig. 1C); A3 ovoid, orange; hairs on thoracic pleura almost entirely orange-yellow; hairs on dorsal scutellum orange-yellow; wings grey, bases orange-yellow; ground colour of abdomen reddish-brown to black; T3 with (♂) or without (♀) pair of anterior, submedian grey, pollinose spots; T4 with median, grey, pollinose triangle; T5 grey pollinose except for pair of large dark spots extending on to T4; sternites and inner edges of tergites without pollinosity; T3 without mm; fore tarsi of female wide (cf Fig. 5D).

REMARKS. *M. canberraera*, *M. sinuata* and *M. danielsi* form a group of very similar species. *M. canberraera* can be distinguished from the latter two species by a weakly projecting epistome (Fig. 1C), parafacials with extensive black hairing, extending below the level of the vibrissae, long

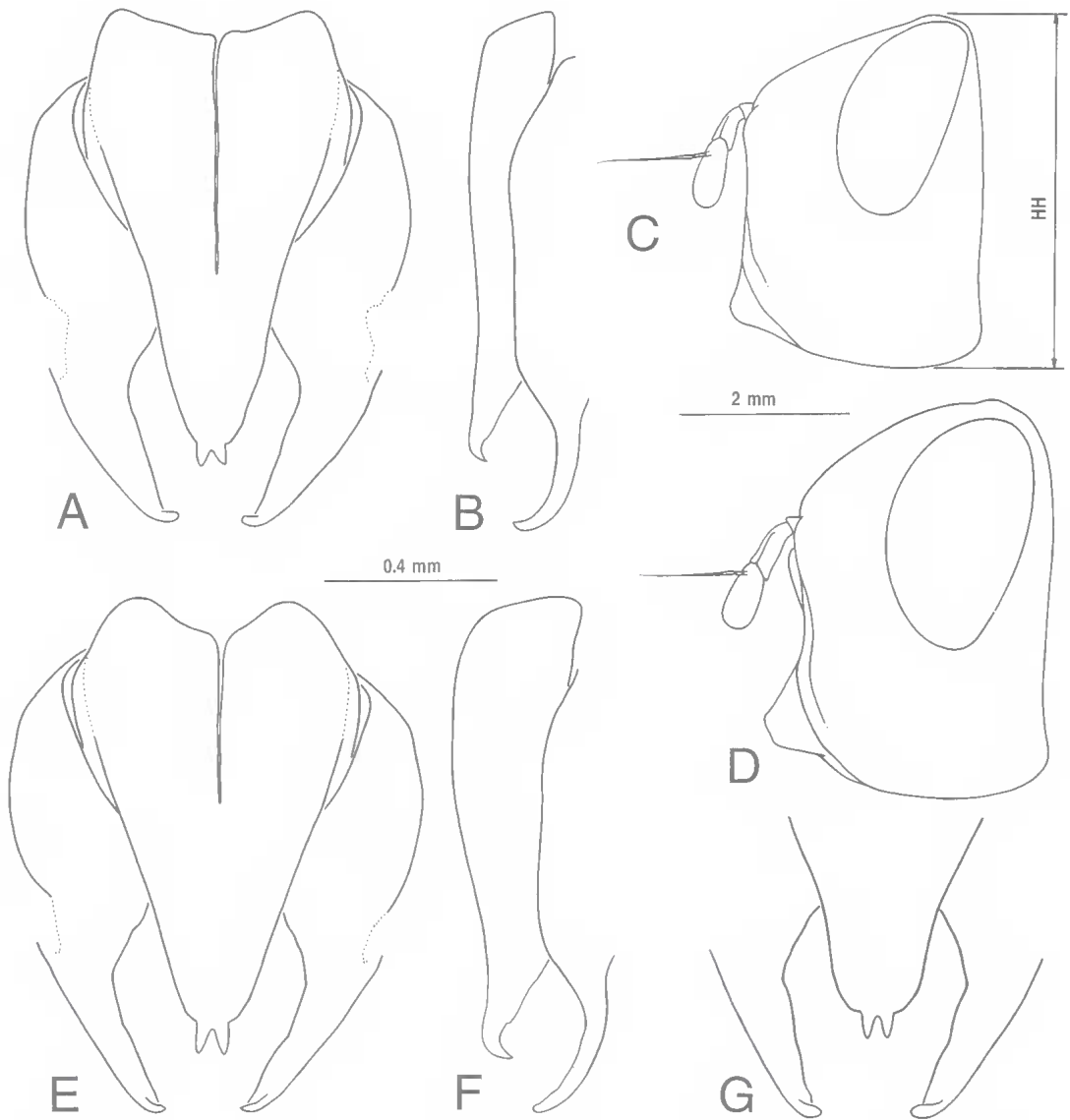


FIG. 1. A-C, *Microtropesa canberrae* (Talia, S.A.); D-G, *M. danielsi* (D-F, 3 km NNW Palmer R. crossing, Qld; G, 32 km S Theodore, Qld). A, B, E, F, caudal and lateral views of ♂ cerci and surstyli. C, D, lateral view of ♂ heads, vestiture omitted. G, caudal view of apex of ♂ cerci and surstyli. HH, head height. A, B, E-G to same scale.

and hair-like fr, dc and acr and very long hairs on the parafacials, genae and thorax.

Males, which have not been previously described, are similar to females but differ as follows: vertex narrower; fore and mid tarsi not widened; ground colour of abdominal tergites reddish-brown (black in ♀); T3 with a pair of anterior, submedian, grey, pollinose spots (absent in ♀); median, grey, pollinose triangle on T4

wider. Male terminalia of *M. canberrae* closely resemble those of *M. danielsi*.

***Microtropesa danielsi* sp. nov.**
(Figs 1D-G, 7A)

MATERIAL EXAMINED. HOLOTYPE QM26036, ♂, 3 km NNW Palmer River crossing, 16°04'S., 144°47'E., Queensland, 19.v.1989, G. & A. Daniels

(QM). Terminalia removed and stored in glycerol in microvial pinned next to holotype, with duplicate label. PARATYPES 8 ♂, same data as holotype (one with terminalia removed and stored in glycerol in microvial pinned next to paratype, with duplicate label); 1 ♂, same data as holotype except 6.x.1989, L. Ring; 2 ♂, same data as holotype except 11.ix.1991, R.C. Manskie; 1 ♂, Mt Moffatt Nat. Pk, Mt Moffatt summit, 25°04'S 148°03'E, 23.xi.95; C.J. Burwell (QM26037); 2 ♂, sandstone hilltop 32 km S Theodore, 25° 10'S 150° 00' 4.x.1991, E.G. Daniels (all UQIC unless indicated).

DIAGNOSIS. ♂ cerci and surstyli as in Fig. 1E-G. Pf with extensive yellow hairing; epistome strongly projecting (Fig. 1D); A3 ovoid, orange; hairs on thoracic pleura almost entirely orange-yellow; hairs on dorsal scutellum orange-yellow; mesonotum with thin covering of shifting whitish pollinosity, thicker surrounding anterior prst-dc; wings grey, bases orange-yellow; ground colour of abdomen dark, reddish-brown to black; T3 without grey, pollinose spots; T4 with median, grey, pollinose triangle about as wide as distance between subapical scutellar setae; T5 grey pollinose except for pair of large dark spots extending on to T4; sternites and inner edges of tergites without pollinosity; T3 without mm.

DESCRIPTION. MALE. *Head* (Fig. 1D). ground colour orange-yellow; genae and pf golden pollinose; pfr and sometimes dorsal pf with black hairs, those on rest of pf and genae orange-yellow; A3 orange, ovoid; 1st arisal segment shorter than 2nd, 3rd thickened basally.

Thorax. ground colour of mesoscutum black except posterior yellow intrusion between rows of dc; mesoscutum with thin covering of shifting, whitish pollinosity, thicker surrounding anterior prst-dc in dorsal view; hairs on mesoscutum mainly black, orange-yellow posteriorly; scutellum orange with orange-yellow hairs; hairs on pleura orange-yellow.

Wings. dark grey, bases orange-yellow.

Legs. orange-yellow, tarsi darkened.

Abdomen. ground colour of tergites dark red-brown, black medially; T3 without mm; dorsal surface of T3 immaculate; T4 with median, grey, pollinose triangle about as wide as distance between subapical scutellar setae; T5 grey pollinose except for pair of large dark spots extending onto T4; sternites and inner edges of tergites without pollinosity; hairs on abdomen black except some yellow hairs on ventral T1+2, St1 and St2.

Body length. 10.6–13.0 mm.

FEMALE. Unknown.

REMARKS. *M. canberrae*, *M. danielsi* and *M. sinuata* form a group of very similar species. *M. danielsi* is most easily distinguished from *M. canberrae* by extensive yellow hairing on the parafacials.

M. danielsi is distinguished from most specimens of *M. sinuata* by the thinly pollinose, unpatterned mesonotum. Males of *M. danielsi* differ from males, and most females of *M. sinuata* by the absence of grey, pollinose spots on T3. Males of *M. danielsi* also differ from those of *M. sinuata* by a narrower grey, pollinose triangle on T4 and consistently longer apices of the surstyli (Fig. 1E-G).

ETYMOLOGY. For Greg Daniels, co-collector of the holotype.

***Microtropesa flaviventris* Malloch, 1930**
(Figs 2A,B, 7C)

Microtropesa flaviventris Malloch, 1930:101; Paramonov, 1951:772; Crosskey, 1973:135; Cantrell & Crosskey, 1989:761.

MATERIAL EXAMINED. HOLOTYPE. ♀, Narramine, NSW (ANIC). **OTHER MATERIAL EXAMINED.** QLD: Taroom (1 ♀, QDPI); Jondaryan (1 ♀, UQIC); Wellcamp (1 ♂, 1 ♀, QDPI); Nobby (1 ♂, QDPI); 16 km N Boonah (1 ♀, QM); 5 km NE Leyburn (1 ♂, QDPI). NSW: nr Bourke (1 ♂, ANIC); 4 mile Ck, W of Wollomombi (1 ♀, ANIC); Bogan R. (1 ♀, ANIC); Mt Boppy, nr Cobar (2 ♂, ANIC); Taree (1 ♀, BCRI); Barrington Tops (1 ♀, ANIC); Round Hill Fauna Reserve (1 ♂, AM); Orange (1 ♀, ANIC); Gosford Dist. (1 ♀, 1 ♂, BCRI); Newbridge (1 ♂, 1 ♀, ANIC, 9 ♂, 6 ♀, BCRI); Penrith (3 ♂, 1 ♀, BCRI); Cowra (1 ♂, BCRI); Sydney (1 ♂, BCRI); Beverly Hills, nr Sydney (1 ♂, AM); Mt Boyce, Blue Mtns (1 ♀, AM); Sutton Forest (1 ♂, BCRI); Berry (1 ♂, BCRI); nr Yass (1 ♂, ANIC); Urana (1 ♀, ANIC); Geogery [Gerogery?] (1 ♀, ANIC); Albury (1 ♂, BCRI); Mt Gladstone, nr Cooma (1 ♂, ANIC); Nimitabel (1 ♀, ANIC). ACT: Blaek Mtn (5 ♂, 1 ♀, ANIC); Canberra (29 ♂, 3 ♀, ANIC); Blundell's, Canberra (1 ♀, ANIC); Mt Gingera (1 ♂, 1 ♀, ANIC). VIC: Strathmerton (1 ♂, ANIC); Hume Weir via Wodonga (1 ♂, UQIC); Alexandra (3 ♀, ANIC); Genoa (3 ♂, ANIC); Ballarat (1 ♂, ANIC); Eagle Point, S of Bairnsdale (1 ♀, ANIC).

DIAGNOSIS. Body length: 8.4–11.4 mm. ♂ cerci and surstyli as in Fig. 2A, B. Hairs on pf black, those on genae mostly pale yellow, sometimes with a few black hairs dorsally; mesonotum in caudal view blue-black with thin covering of whitish pollinosity; wings light grey, almost hyaline, base yellowish; ground colour of abdomen yellowish, excavation of T1+2 blue-

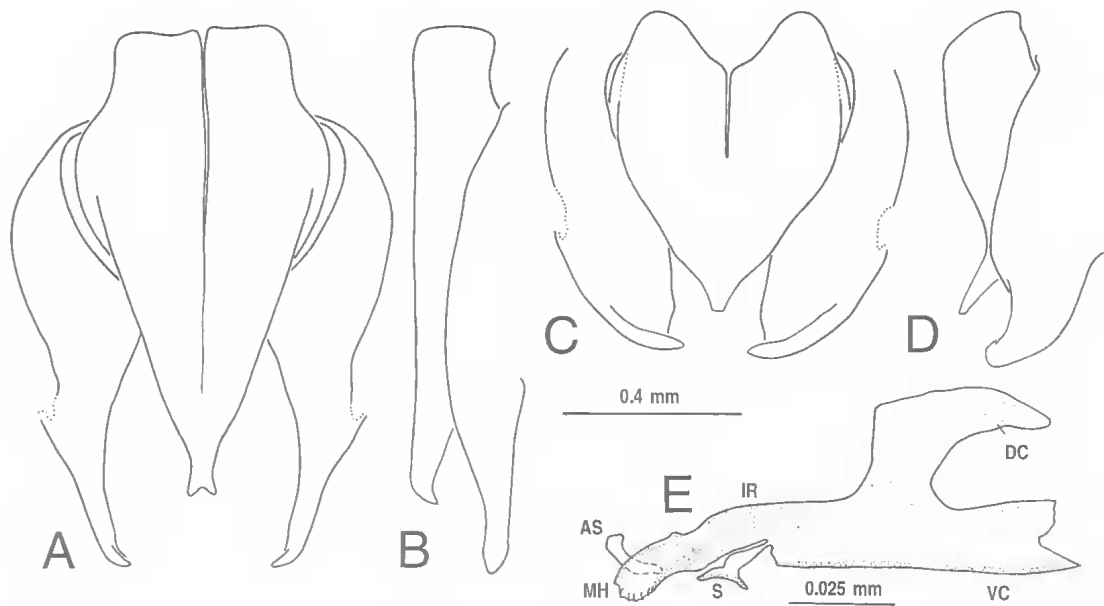


FIG. 2. A, B, *Microtropesa flaviventris*; C-E, *M. intermedia*. A-D, caudal and lateral views of ♂ cerci and surstyli. E, lateral view of cephalopharyngeal skeleton of 1st instar larva. AS, accessory sclerite; DC, dorsal cornu; IR, intermediate region; MH, mouth hook; S, sclerite of salivary gland; VC, ventral cornu. A-D to same scale.

black, continued as dorsomedial vitta extending to T5; T3 and T4 in caudal view each with indistinct, median triangle of thin, whitish pollinosity which hardly obscures ground colour, sometimes only anterior base of triangle present on T3; T5 with extensive thin, whitish pollinosity, sometimes with pair of yellow spots without pollinosity in caudal view; T3 without mm.

REMARKS. *M. flaviventris* most closely resembles *M. obtusa* and *M. ochriventris* from which it can be distinguished by the uniform, thin pollinosity on the mesonotum and the absence of mm on T3. The blue-black, abdominal vitta of *M. flaviventris* is broader in females than males. In females it is about as broad as the distance between the basal scutellar setae, while in males it is, at most, a little wider than the distance between the subapical scutellar setae.

Hardy (1939) incorrectly considered *M. flaviventris* a junior synonym of *M. obtusa*.

***Microtropesa intermedia* Malloch, 1930**
(Figs 2C-E, 7E)

Microtropesa intermedia Malloch, 1930:100; Hardy, 1939:35; Paramonov, 1951:775; Crosskey, 1973:135; Cantrell & Crosskey, 1989:761.

MATERIAL EXAMINED. HOLOTYPE. ♂, Eidsvold, Queensland, 20.iv.1924, Bancroft (ANIC). **OTHER MATERIAL EXAMINED.** QLD: Yeppoon (1♂, ANIC); Theodore (1♀, UQIC); Electra State Forest, 25 km S Bundaberg (1♂, ANIC); Bluff Ra. foothills, Biggenden (1♀, ANIC); SW Bluff Ra., Biggenden (1♂, ANIC); Rockpool Gorge, Mt Walsh Nat. Pk, Biggenden (2♂, 1♀, ANIC); Coalstoun Lakes, nr Biggenden (3♂, ANIC); S Boolboonda Ra., via Mt Perry (1♀, ANIC); nr Seary's Ck, Cooloola (1♀, QM); Noosa Nat. Pk (1♀, UQIC); Tibrogargan Ck, Glasshouse (1♀, UQIC); Beeberum [Becburrum?] (1♂, UQIC); Point Lookout, North Stradbroke Is. (1♂, UQIC); Brisbane (1♂, 2♀, QM); St. Lucia, Brisbane (1♂, 1♀, UQIC, 2♀, ANIC); Stradbroke Is. (1♀, QM); Stockyard Ck, SE Capalaba (1♂, UQIC); Sunnybank, Brisbane (2♂, ANIC); 4 km WNW Mt Cotton (1♀, UQIC); The Blunder, Brisbane (1♀, ANIC); 16 km N Boonah (1♀, UQIC); Amiens State Forest, nr Stanthorpe (1♀, UQIC). NSW: Clyde Mtns, nr Braidwood (1♀, ANIC); Alpine Ck, Kiandra (2♀, ANIC). ACT: Canberra (1♂, ANIC); Blundell's (1♂, ANIC); Lees Ck, Brindabella Ra. (1♂, 1♀, AM); Bendora (1♀, ANIC); Mt Gingera (1♂, 3♀, ANIC); Cotter R. (1♂, ANIC). VIC: 2 miles [3.5 km] NW Porepunkah (1♂, ANIC). Tasmania: Rupert Point, Pieman R. (1♂, ANIC); 9 km SE Miena (13♀, UQIC); Derwent Bridge (1♂, ANIC). Other: no data (1♀, QDPI, 1♀, ANIC).

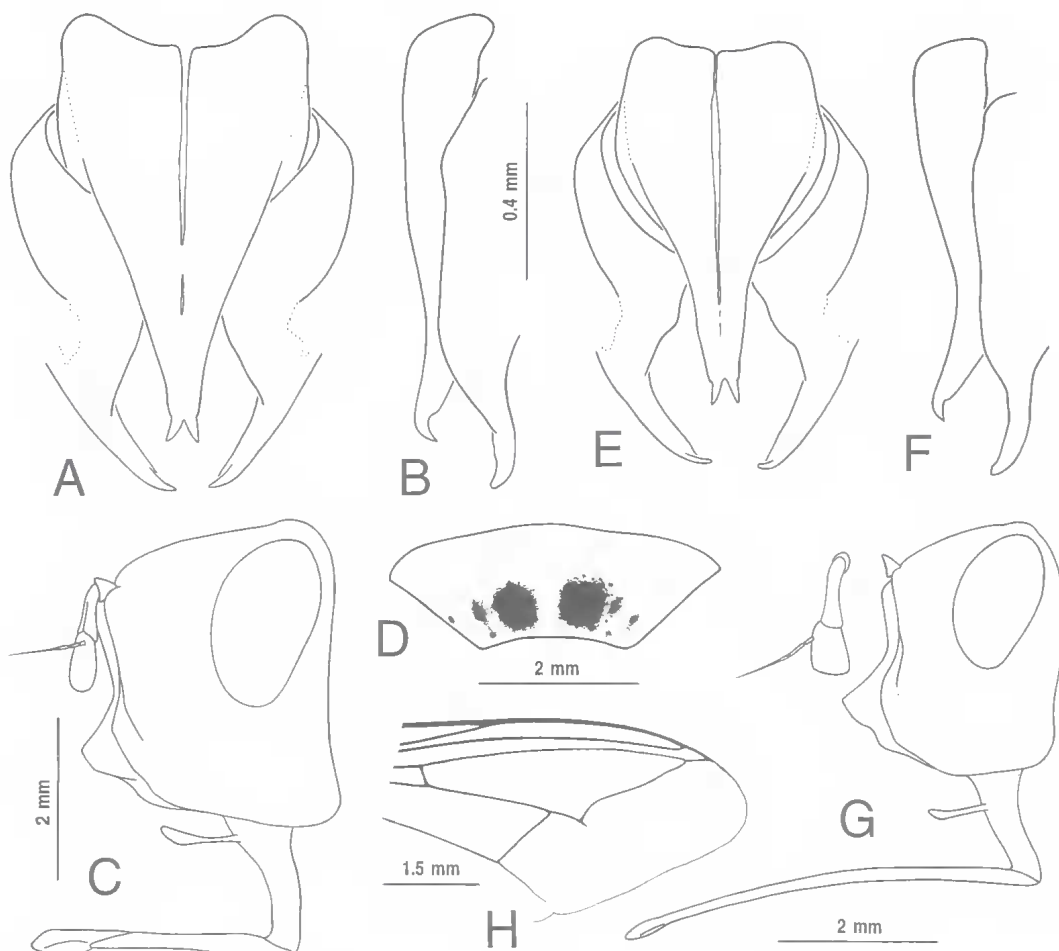


FIG. 3. A-D, *Microtropesa latigena*; E, F, *M. near latigena*; G, H, *M. longimentum* holotype. A, B, E, F, caudal and lateral views of ♂ cerci and surstyli. C, G, lateral view of ♀ heads, vestiture omitted. D, caudal view of 4th apparent abdominal tergite (T5). H, apex of wing.

DIAGNOSIS. Body length 11.7–13.5 mm. ♂ cerci and surstyli as in Fig. 2C,D. Pf and genae golden pollinose; A3 black, base yellow or orange-yellow; mesonotum with bronze reflection and distinct pattern of whitish pollinosity which shifts markedly when viewed dorsally and then caudally; mesonotum with median, pollinose vitta, broken at transverse suture, extending to base of scutellum in most specimens; prescutum, in dorsal view, with a pair of pollinose spots enclosing anterior and posterior setae of each row of prst-dc; wings grey, bases orange-yellow; hairs on ventral surface of basal node of R4+5 black, sometimes with a few yellow hairs; ground colour of T3 and T4 red-brown to black, both with median, grey, pollinose triangles; T5

grey pollinose with pair of large, dark spots; T3 with one or more pairs of mm.

REMARKS. *M. intermedia* is very similar to *M. nigricornis* from which it is best separated by the golden pollinose pf and genae, the bronze reflection and shifting pollinose markings on the mesonotum and the colour of the hairs on the ventral node of R4+5. Some specimens of *M. intermedia* are similar to those of *M. nigricornis* in that the grey, pollinose markings on the abdomen are distinct. However, in other specimens of *M. intermedia* the pollinose triangles on T3 and T4 are thin with poorly defined margins. In addition, some females of *M. intermedia* can be separated from those of *M. nigricornis* by the

dark spots on T5 extending to the anterior margin of the tergite. The male genitalia of *M. intermedia* (Fig. 2C,D) have the apex of the cerci pointed and the surstyli blade-like and differ markedly from those of *M. nigricornis* (Fig. 4A,B).

1st-instar larvae were recovered from the uterus of a female *M. intermedia*. Their banded appearance and strongly arched dorsal cornua of the cephalopharyngeal skeleton resemble the larvae of *Cuphocera* (Tachinini) and the Linnaemyini described by Cantrell (1988). They differ in the distinctly serrate edges of the mouth-hooks (Fig. 2E). Body length: 0.76 mm (n = 10).

***Microtropesa latigena* Paramonov, 1951**
(Figs 3A-D, 7A)

Microtropesa latigena Paramonov, 1951:769;
Crosskey, 1973:135; Cantrell & Crosskey,
1989:761.

MATERIAL EXAMINED. HOLOTYPE ♀, Kalgoorlie, WA, August, L.J. Newman (ANIC). OTHER MATERIAL EXAMINED. NSW: Broken Hill (1♂, AM). SAUST: Coonamoree [? Coonamoranie] (1♂, ANIC); Stuart Ra. (1♀, ANIC); 37 miles [60 km] ENE White Well [White Wells] (2♂, ANIC); 19 miles [31 km] ENE Eucla (1♀, ANIC). WA: Mt Squires (1♀, SAM); Nanambinia HS, SW Balladonia (1♀, ANIC).

DIAGNOSIS. Body length: 10.9–12.6 mm. ♂ cerci and surstyli as in Fig. 3A,B. A3 ovoid, brown (darker in ♂), base yellow; pf very wide (Fig. 3C), with black hairs; hairs on genae mostly black; anterior mesonotum with distinct pattern of whitish pollinosity, prescutum with acr enclosed in median, pollinose vitta bordered laterally by pair of black, submedian vittae extending on to scutum, narrowly interrupted at transverse suture; each row of prst dc enclosed in pollinose vitta bordered laterally by black vitta extending on to scutum, broadly interrupted at transverse suture; wings light grey, bases brownish-yellow; ground colour of T3 and T4 in ♀ black, in ♂ reddish-yellow, black medially; T3 and T4 with median, grey, pollinose triangles usually with sharply defined margins; T5 grey, pollinose with pair of small, submedian, black or dark-brown spots posterodorsally (Fig. 3D), often second pair of dark spots posteroventrally; bases of some setae on T5 black; T3 with one or two pairs of mm (weaker in ♂).

REMARKS. A male and female in ANIC from near Alice Springs are similar in most respects to *M. latigena*, to which they key, but the abdominal ground colour of the male is darker, the mm on

T3 are extremely weak in the female and absent in the male, the pollinose triangles on T3 and T4 have poorly defined margins and the cerci and surstyli of the male differ slightly (Fig. 3E,F). They probably represent an undescribed species.

***Microtropesa longimentum* sp. nov.**
(Figs 3G,H, 7A)

MATERIAL EXAMINED. HOLOTYPE ♀, Lake Surprise area, Simpson Desert, 135° 5'E., 26° 4'S., S AUST, 13.ix.1971. T.F. Houston (SAM).

The holotype has some setae, hairing and pollinosity abraded, however it differs radically from the other known *Microtropesa* and description is warranted.

DIAGNOSIS. *M. longimentum* is recognisable by its greatly elongated mentum (Fig. 3G) and closed cell R5 in the wing (Fig. 3H).

DESCRIPTION. FEMALE. *Head* (Fig. 3G). Ground colour yellow; viewed laterally, pfr, pf and genae thickly whitish pollinose; pfr with fine black hairs; pf and genae with sparse, strong, black hairs, many seta-like; A3 quadrangular, wider at apex, brownish; 1st arisal segment elongate, almost as long as 2nd; 3rd arisal segment about twice as long as combined length of 1st and 2nd, basal third thickened; proboscis with mentum longer than head height; labellum reduced.

Thorax. Ground colour of mesonotum black, except posterior margin, posterior intrusion between rows of dc and lateral margin enclosing ia yellow; scutellum yellowish; pattern of whitish pollinosity on mesonotum as follows; narrow, median, pollinose vitta between acr; pollinose vitta enclosing each row of prst-dc; prst-ia and presutural scta enclosed in pollinosity; humeral callus pollinose; pollinosity on scutum partially abraded but with large, median patch enclosing both rows of acr; hairs on mesonotum and scutellum black.

Wings (Fig. 3H). Cell R5 closed; wings light grey, bases yellowish-brown.

Legs. Brownish-yellow, apical tarsal segments darkened.

Abdomen. Ground colour of tergites, in dorsal view, shining-black; T3 and T4 each with thick, grey, pollinose, anterior band with median, triangular extension reaching posterior margin; T5 grey pollinose except for pair of large, posterodorsal black spots; venter of abdomen grey pollinose, thin on sternites, yellow ground colour showing through; T3 with pair of very strong mm.

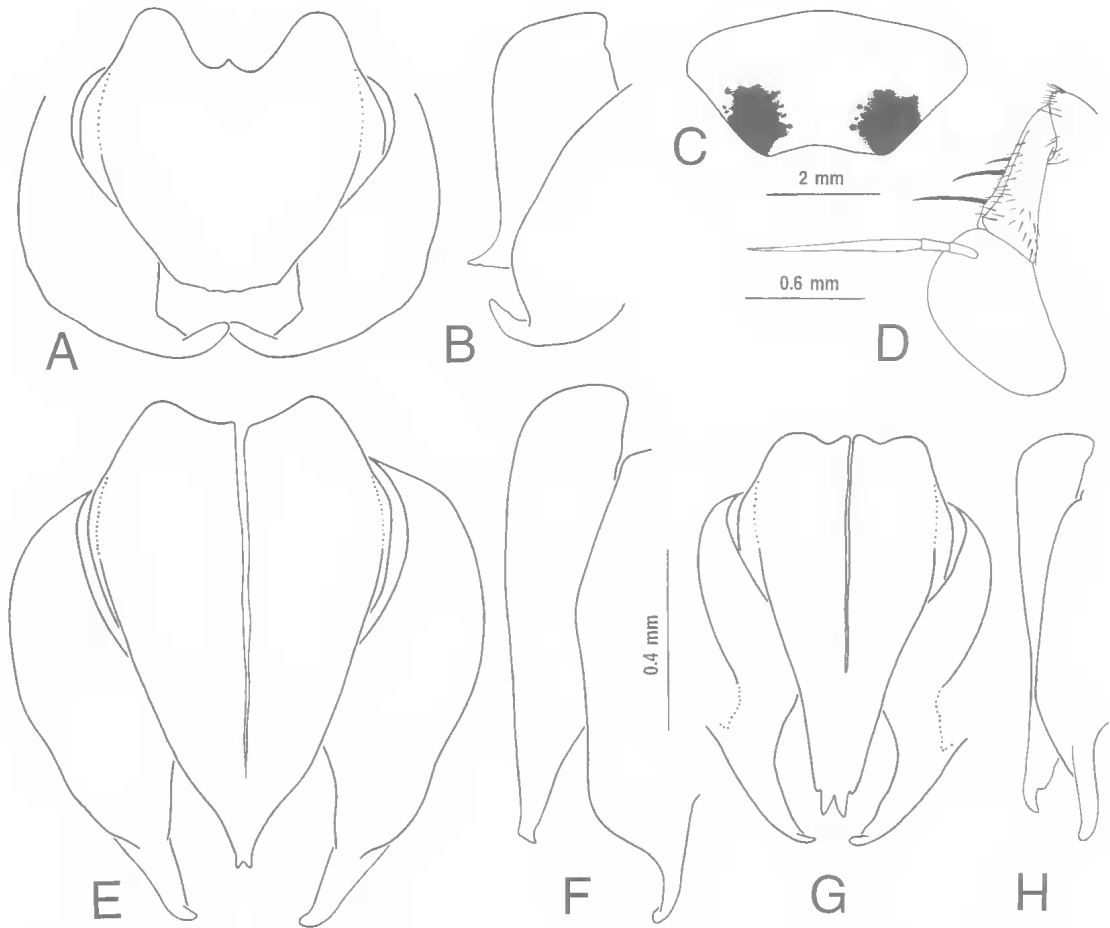


FIG. 4. A-C, *Microtropesa nigricornis*; D-F, *M. obtusa*; G, H, *M. ochriventris*. A, B, E-H, caudal and lateral views of δ eerei and surstyli. C, caudal view of 4th apparent abdominal tergite (T5). D, δ antenna. A, B, E-H to same scale.

Body length. 10.6 mm.

MALE. Unknown.

ETYMOLOGY. Latin noun in apposition, for the long mentum.

***Microtropesa nigricornis* Macquart, 1851**
(Figs 4A-C, 7F)

Microtropesa nigricornis Macquart, 1851:199, pl. 21, fig. 5; Townsend, 1939:14; Hardy, 1939:35; Engel, 1925:344; Paramonov, 1951:774; Crosskey, 1971:278; Crosskey, 1973:135; Cantrell & Crosskey, 1989:761.

MATERIAL. LECTOTYPE δ (designated Crosskey, 1971:278), TAS (MNHN) [not examined but notes on important characters provided by Dr. L. Matile of

MNHN]. MATERIAL EXAMINED NSW: Gibraltar Ra. Nat. Pk (2 δ , 2 ϕ , UQIC); NE [New England?] Nat. Pk (1 δ , ANIC); 6 km NE Bilpin (1 δ , AM); 5 km E Bilpin (1 δ , 2 ϕ , AM); Jinki Ck, Blue Mtns (1 ϕ , AM); 3 km S Mount Wilson (1 ϕ , AM); Mt Tomah (2 δ , AM); 3 miles [5 km] SW Mt Tomah (2 δ , AM); Mount Victoria (1 δ , ANIC); Hat Hill (10 δ , 1 ϕ , AM); Blackheath (1 δ , ANIC); Lawson, Blue Mtns (3 δ , AM); Goondera Ridge, Royal Nat. Pk (2 ϕ , AM); Clyde Mts, nr Braidwood (1 δ , ANIC); Olson's [Olsen's?] Lookout, Snowy Mtns (1 δ , ANIC); Sawpit Ck, Mt Koseiusko (1 ϕ , ANIC). ACT: Canberra (1 δ , ANIC); Mt Coree (5 δ , 1 ϕ , ANIC); Blundell's (1 δ , ANIC); Lees Ck, Brindabella Ra. (1 δ , 1 ϕ , AM); Mt Franklin (3 δ , ANIC). TAS: Granite Point Reserve, Bridport (5 ϕ , UQIC); Mt George (1 δ , UQIC); Turners Beach, nr Ulverstone (1 δ , UQIC); Don R., nr Don (2 ϕ , UQIC); Hobart (1 δ , ANIC); Tasmania (2 δ , 1 ϕ , ANIC).

DIAGNOSIS. Body Length 11.8–12.9 mm. ♂ cerci and surstyli as in Fig 4A,B. Pf silver pollinose; genae golden pollinose; A3 black, base yellow or orange-yellow; mesonotum black with distinct pattern of whitish pollinosity which shifts little when viewed dorsally and then caudally; mesonotum with median, pollinose vitta, broken at transverse suture, extending to base of scutellum in most specimens; prescutum with pair of pollinose spots enclosing anterior and posterior setae of each row of prst-dc; wings grey, bases orange-yellow; hairs on ventral surface of basal node of R4+5 yellow, sometimes with a few black hairs; ground colour of T3 and T4 red-brown to black, both with median, grey, pollinose triangles; T5 grey pollinose with pair of large, dark spots; T3 with one or more pairs of mm.

REMARKS. *M. nigricornis* is very similar to *M. intermedia* from which it can be distinguished by the silver pollinose pf, the black mesonotum with stable pollinose markings and the colour of the setae on the ventral surface of the basal node of R4+5. The grey pollinose markings on the abdomen of *M. nigricornis* are always thick with sharply defined margins and the dark spots on T5 are always bordered anteriorly by pollinosity in both sexes (Fig. 4C). Male genitalia of *M. nigricornis* (Fig. 4A,B) have the apex of the cerci blunt and the surstyli hook-like and differ markedly from those of *M. intermedia* (Fig. 2C,D).

***Microtropesa obtusa* (Walker, 1853)**
(Figs 4D-F, 7B)

Tachina obtusa Walker, 1853:274.

Echinomyia stolidi Walker, 1858:196. Synonymy by Austen, 1907:330.

Gerotachina obtusa Townsend, 1916:152; Townsend, 1932:40.

Microtropesa flavitarsis Malloch, 1929:288; Malloch, 1930:100; Paramonov, 1951:773; Crosskey, 1973:135; Cantrell & Crosskey, 1989:761. Synonymy by Hardy, 1939:36.

Microtropesa obtusa (Walker); Hardy, 1939:36; Paramonov, 1951:771; Crosskey, 1973:135; Cantrell & Crosskey, 1989:761.

MATERIAL EXAMINED. LECTOTYPE ♀ designated Townsend (1932:40), NSW (BMNH). Holotype of *E. stolidi* ♂, NSW (BMNH). Holotype of *M. flavitarsis* ♂, TAS (AM). OTHER MATERIAL EXAMINED. ACT: Canberra (3♂, 3♀, ANIC). S AUST: Roseworthy (1♀, SAM). WA: Kojarena (1♀, ANIC); Geraldton (1♂, 1♀, ANIC); Bunbury (1♂, ANIC, 2♂, WADA).

DIAGNOSIS. Body length: 11.2–12.5 mm. ♂ cerci and surstyli as in Fig. 4E,F. Pf black haired; genae with numerous black hairs dorsally, rest with pale yellow hairs; A3 of ♀ ovoid, of ♂ triangular, produced towards face distally (Fig. 4D); anterior mesonotum with distinct pattern of whitish pollinosity; acr enclosed in median pollinose vitta bordered laterally by pair of black submedian vittae which are narrowly interrupted at transverse suture; each row of prst-dc enclosed in pollinose vitta bordered laterally by black vitta which is broadly interrupted at transverse suture; ground colour of abdomen orange-yellow with black, dorsomedial vitta; T3 and T4 in caudal view each with median triangle of thin, whitish pollinosity which usually obscures ground colour; T5 with pair of large spots without pollinosity in caudal view; T3 with 2-4 pairs of strong mm.

REMARKS. *Microtropesa obtusa* most closely resembles *M. flaviventris* and *M. ochriventris*. The numerous black hairs on the genae, the pattern of pollinose vittae on the mesonotum and the strong mm on T3 distinguish *M. obtusa* from *M. flaviventris*. The pattern of whitish pollinosity on the abdomen, especially T4 and T5 distinguishes *M. obtusa* from *M. ochriventris*.

The triangular A3 of male *M. obtusa* is characteristic.

***Microtropesa ochriventris* Malloch, 1929**
(Figs 4G,H, 7D)

Microtropesa ochriventris Malloch, 1929:287, fig.2; Malloch, 1930:100; Paramonov, 1951:776; Crosskey, 1973:135; Cantrell & Crosskey, 1989:762.

MATERIAL EXAMINED. HOLOTYPE ♀, Allyn Range, Barrington Tops, NSW, February 1925, Sydney University zoological expedition (ANIC). OTHER MATERIAL EXAMINED. QLD: Pomona (1♂, UQIC); Wild Horse Mtn, nr Beerwah (8♂, QDPI); Mt Tibrogargan (1♂, UQIC); Mt Mitchell, nr Aratula (1♂, UQIC). NSW: hilltop, 24 km W Grafton (1♂, UQIC); 25 km W Grafton (1♀, QDPI); Barwick R., NE [New England?] Tableland (1♂, ANIC); Point Lookout, nr Ebor (3♂, ANIC); 12 km SW Ebor (2♀, UQIC); Allyn Ra., Barrington Tops (2♀, ANIC); Hat Hill (1♀, AM); Kuringai [Ku-ring-gai] Chase Nat. Pk (1♀, BCRI); Kanangra Boyd Nat. Pk (1♂, BCRI); Nowra (1♀, ANIC); 9 miles [14.5 km] NW Braidwood (1♀, ANIC); Rutherford Ck, Brown Mtn, nr Nimmitabel (1♀, AM). ACT: Black Mtn Reserve (1♀, ANIC); Canberra (1♂, ANIC); Mt Coree (1♂, ANIC); Lees Ck, Brindabella Ra. (1♂, AM); Mt Gingera (1♀, ANIC). Victoria: Bogong, via Mt Beauty (1♀, UQIC);

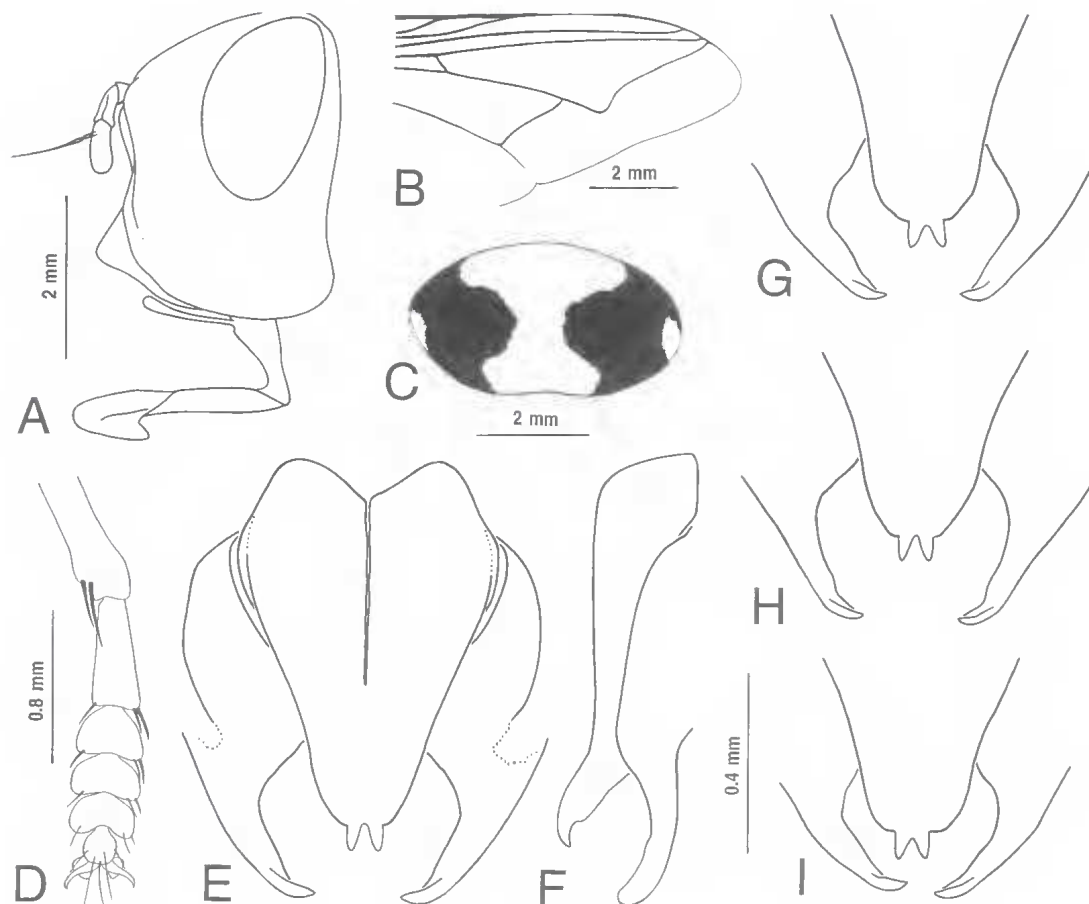


FIG. 5. *Microtropesa sinuata*. (E, F, Mt Tinbeerwah, Qld; G, 25 km W Bridport, Tas.; H, Isla Gorge, Qld; I, Swan R, W.A.). A, lateral view of ♂ head, vestiture omitted. B, apex of wing. C, caudal view of 4th apparent abdominal tergite (T5). D, dorsal view of ♀ fore tarsus. E, F, caudal and lateral view of ♂ cerci and surstyli. G-I, caudal views of apices of ♂ cerci and surstyli. E-I to same scale.

Victoria (1♂, WADA). Tasmania: Strzelecki Peaks, Flinders Is. (1♂, ANIC); Strahan (1♂, ANIC); Hobart (1♀, ANIC). South Australia: 2 km SE of Montacute (1♀, ANIC). Other: Gordon [N.S.W. or Tas.?] (1♀, ANIC).

DIAGNOSIS. Body length 10.7–12.3 mm. ♂ cerci and surstyli as in Fig. 4G,H. Vertex of ♂ very narrow, less than twice width of ocellar triangle; Pf black haired; genae with numerous black hairs dorsally, rest with pale yellow hairs; A3 of ♂ and ♀ ovoid; mesonotum with bronze reflection; anterior mesonotum with distinct pattern of whitish pollinosity; acr enclosed in median pollinose vitta bordered laterally by pair of black submedian vittae which are narrowly interrupted at transverse suture; black submedian vittae coalesce anteriorly; each row of prst-dc

enclosed in pollinose vitta bordered laterally by black vitta which is broadly interrupted at transverse suture; ground colour of abdomen orange with black, dorsomedial vitta which is largely obscured by pollinosity; T3 with median triangle or 'V' of whitish pollinosity; rest of abdomen with orange pollinosity (thicker on T5) except for pair of orange spots with black mesal edges on T3; T3 with one or more pairs of mm.

REMARKS. *M. ochriventris* can be separated from the similar *M. flaviventris* and *M. obtusa* by the extensive orange pollinosity on the abdomen. The very narrow vertex of males is characteristic.

Hardy (1939) incorrectly considered *M. ochriventris* a junior synonym of *M. obtusa*.

***Microtropesa sinuata* (Donovan, 1805)
(Figs 5, 7G)**

Musca sinuata Donovan 1805:[166], pl. [41].

Microtropesa sinuata (Donovan); Macquart, 1846:313; Macquart, 1851:199; Engel, 1925:344, fig.B; Townsend, 1932:40; Townsend, 1939:13; Hardy, 1939:34; Paramonov, 1951:776; Crosskey, 1973:135; Cantrell & Crosskey, 1989:762.

Tachina bura Walker, 1849:760. Synonymy by Hardy 1939:34.

Microtropesa ignipennis Brauer, 1899:510 (unavailable name published in synonymy with *sinuata* Donovan, not subsequently made available); Crosskey, 1971:278.

Microtropesa latimana Malloch, 1929:287, fig. 3a; Malloch 1930:100. Synonymy by Hardy 1939:34. Some early references are given by Hardy (1939:34).

MATERIAL. The holotype of *M. sinuata* is not in London as stated by Townsend (Crosskey, 1971) and is presumed lost. Lectotype of *T. bura* ♂, designated by Crosskey (1973:163), Tasmania, Rev. J. Ewing (BMNH) [examined]. Holotype of *M. latimana* ♀, Queensland (AM) [examined]. **OTHER MATERIAL EXAMINED.** QLD: Kroombit Tops (2♂, 1♀, UQIC, 1♂, QM); Mt Scoria, 6 km S Thangool (4♂, UQIC); Expedition Ra. (1♂, AM); Marlong Arch, Mt Moffatt Nat. Pk (2♂, QM); Mt Moffatt summit, Mt Moffatt Nat. Pk (4♂, QM); Mt Moffatt [Moffatt] Nat. Pk (1♂, UQIC); Isla Gorge Nat. Pk (5♂, UQIC); Mt Woowoonga, 54 miles [87 km] SW Bundaberg (1♂, ANIC); Woowoonga Ra., SW Bundaberg (1♂, ANIC); Bluff Ra., Biggenden (1♂, ANIC); Mt Tinbeerwah, nr Cooroy (2♂, UQIC, 6♂, QDPI); Cooroy (1♂, AM); Beacon Hill, 16 km W Imbil (1♂, UQIC); 16 km SW Kumbia (1♂, UQIC); Sunday Ck Fire Tower, Jimna State Forest (1♂, QM); Yarraman (1♂, UQIC); Wild Horse Mtn, nr Beerburum (2♂, UQIC); Mt Glorious (1♂, ANIC); Brisbane (6♂, QDPI, 1♂, ANIC); Toowong (1♂, QM); 13 km N Dunwich, North Stradbroke Is. (1♂, UQIC); Flinders Peak (13♂, 4♀, UQIC, 1♂, QM); Mt Edwards, nr Aratula (3♂, UQIC); Bollon (1♂, ANIC); Mt Mitchell, nr Aratula (2♂, UQIC); Miami, G. [Gold] Coast (1♀, UQIC); Mt Greville, nr Aratula (2♂, UQIC); Lamington Nat. Pk (5♂, UQIC); [Lamington?] Nat. Pk (1♀, QM); Amiens, nr Stanthorpe (2♂, AM, 1♀, ANIC); Amiens State Forest (1♂, UQIC); Glen Aplin (3♂, UQIC); Mt Marlay, nr Stanthorpe (1♂, UQIC); Queensland (1♀, AM). NSW: Bald Roek Nat. Pk, 25 km SE Stanthorpe (1♂, UQIC); Gibraltar Ra. Nat. Pk (1♂, 1♀, UQIC); Grafton (2♂, ANIC, 1♂, AM); 24 km W Grafton (1♂, UQIC); 25 km W Grafton (1♂, UQIC, 2♂, QDPI); 15 km W South Grafton (1♂, UQIC); 20 km W South Grafton (1♂, UQIC); 24 km W South Grafton (1♂, UQIC); Mt Kaputar Nat. Pk (2♂, AM); 14 km SW Ebor (1♀, UQIC); New England Nat. Pk (1♂, ANIC); Ural-la (1♂, ANIC); Dangar Falls (3♂, ANIC); Warrumbungle Nat. Pk, nr Coonabarabran (1♀, ANIC); Cobar (1♂, UQIC); Mt Boppy, nr Cobar (7♂, ANIC, 1♂,

AM); Mt Gibraltar (1♂, AM); Barrington R. (1♀, ANIC); W end Dilgy Ck Cirele Road, N section Barrington Tops State Forest (1♀, AM); Mt Arthur, 3 miles [5 km] W Wellington (1♂, ANIC); Round Hill Fauna Reserve (5♀, AM); Toronto (1♂, UQIC, 2♂, 1♀, ANIC); Orange (1♂, ANIC); Clarence, Blue Mtns (3♀, AM); 3 km NE Bilpin, nr Kurrajong (1♀, AM); nr Mt Bell (1♂, AM); Mt York, Blue Mtns (1♀, AM); Mt Banks, Blue Mtns (1♂, AM); Blackheath (2♀, ANIC); Wentworth Falls (2♀, ANIC); Lindfield (1♀, ANIC); Ashfield (1♀, AM); Baldy Bill Fire Rd, Kanangra Plateau (1♀, AM); Macquarie Fields (1♀, BCRI); Goondera Ridge, Royal Nat. Pk (1♂, AM); Wee Jasper (1♀, ANIC); Clyde Mtns, nr Braidwood (12♂, ANIC); Clyde Mtns, E slope (1♂, ANIC); Talbingo (1♂, ANIC); Durras North (1♂, ANIC); Roseville (1♂, BCRI). ACT: Black Mtn (1♂, ANIC); Canberra (1♂, 1♀, QDPI); Mt Coree (1♀, ANIC); Blundell's (1♀, ANIC); Queanbeyan (1♂, UQIC); Lees Spring, Brindabella Ra. (1♀, ANIC). VIC: Wyperfield Nat. Pk (1♂, AM); Mt William, Grampians (1♂, ANIC); Gisborne (2♂, ANIC, 1♂, QM); Killara (1♂, ANIC); Melbourne (1♂, SAM); Mt Dandenong (1♂, ANIC). TAS: Mt William Nat. Pk (1♂, UQIC); 25 km W Bridport (1♂, UQIC); Lefroy (1♂, SAM); Freycinet Nat. Pk (1♂, ANIC); Tasmania (2♂, 1♀, SAM). South Australia: Sleaford Bay (2♀, ANIC); Mt Lofty (1♂, 1♀, SAM). WA: 6 miles [9.5 km] SW Mullewa (1♀, ANIC); Three Springs (1♀, WADA); Moora (1♂, WADA); Toodyay (1♂, SAM); [?] Cunderdin (1♀, QM); Perth (1♀, ANIC); Crawley, Perth (1♀, ANIC); Swan R. (1♂, 2♀, ANIC); Bedforddale (1♀, WADA); Gleneagle (1♀, WADA); Mt Ragged (1♂, ANIC); 24 miles [39 km] E Pingrup (1♀, ANIC); Margaret R. mouth (1♀, SAM); Stirling Ra. (1♂, WADA); Albany (1♂, ANIC). Other: 1590 (1♂, QDPI); no data (1♀, QM, 1♀, SAM, 1♂, 1♀, QDPI).

DIAGNOSIS. Body length: 10.2–14.6 mm. ♂ cerci and surstyli as in Fig. 5E–I. Pf usually with extensive yellow hairing, rarely with extensive black hairing but never extending below level of vibrissae and at least ventral third of pf with yellow hairs; epistome strongly projecting (Fig. 5A); A3 ovoid, orange; hairs on thoracic pleura almost entirely orange-yellow; hairs on dorsal scutellum orange-yellow; prescutum with whitish pollinosity developed into pattern of stripes and spots; wings grey, bases orange-yellow; ground colour of abdomen dark, reddish-brown to black; T3 usually with pair of anterior, submedian, grey, pollinose spots (rarely absent in ♀); T4 with median, grey, pollinose triangle wider than distance between subapical scutellar setae in ♂; T5 grey pollinose except for pair of large dark spots extending on to T4; sternites and inner edges of tergites without pollinosity; T3 without mm.

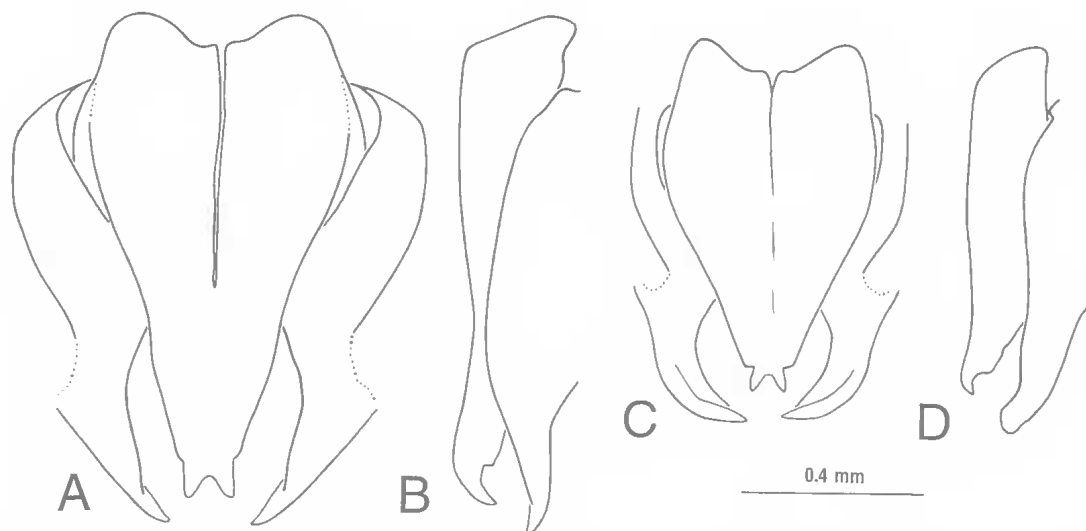


FIG. 6. A, B, *Microtropesa violacescens*; C, D, *M. viridescens*. A-D, caudal and lateral views of ♂ cerci and surstyli.

REMARKS. *M. canberrae*, *M. danielsi* and *M. sinuata* form a group of very similar species. Most specimens of *M. sinuata* differ from *M. canberrae* by extensive yellow hairing on the parafacials. Rarely the parafacials are black haired as in *M. canberrae*, however, in *M. sinuata* black hairs never extend below the level of the vibrissae.

Most specimens of *M. sinuata* can be separated from *M. danielsi* by the pattern of whitish pollinose spots on the prescutum of the mesonotum. Males and most females of *M. sinuata* differ from males of *M. danielsi* by the pair of anterior, submedian, grey, pollinose spots on T3. Males of *M. sinuata* also differ from those of *M. danielsi* by a wider grey, pollinose triangle on T4 and consistently shorter apices of the surstyli (Fig. 5E-I).

***Microtropesa skusei* Bergroth, 1894**
(Fig. 7B)

Microtropesa skusei Bergroth, 1894:73; Engel, 1925:345; Paramonov, 1951:767; Crosskey, 1973:135; Cantrell & Crosskey, 1989:762.

MATERIAL. HOLOTYPE ♀, Coomooboolaroo, near Duarina, Queensland (most likely depository Zoological Museum, Helsinki, not located by Crosskey (1973), probably lost).

DIAGNOSIS. As for *M. viridescens* except hairs on palpi black.

REMARKS. Bergroth (1894) described *M. skusei* from one or more females which have not been located. Females of *M. viridescens* match the original description of *M. skusei* except for the hairs on the palps. According to Bergroth (1894) the hairs on the palps of *M. skusei* are black while those on the palps of *M. viridescens* are yellow, occasionally with a few black hairs.

Hardy (1939) incorrectly considered *M. skusei* a junior synonym of *M. sinuata*.

***Microtropesa violacescens* Enderlein, 1937**
(Figs 6A,B, 7B)

Microtropesa violacescens Enderlein, 1937:441; Crosskey, 1973:135; Cantrell & Crosskey, 1989:762.

Microtropesa sinuata; Malloch, 1928:614; Malloch, 1929:287, figs 1, 3b; Malloch, 1930:100.

Microtropesa fallax Hardy, 1939:35; Paramonov, 1951:777. Synonymy by Crosskey, 1973:136.

MATERIAL. Lectotype of *M. violacescens* ♂ (designated Crosskey, 1973:161), Herberton, QLD (DEI) [not examined]. Holotype of *M. fallax* ♀, Brisbane, Queensland [not located, probably lost]. **MATERIAL EXAMINED.** NT: 7 km NNW Cahills x-ing, E Alligator R. (1♀, ANIC); Manton Dam, 52 km SSE Darwin (1♂, ANIC). QLD: Mt White, Coen (1♂, AM); Cooktown (1♂, ANIC); 12 km N Palmer R. x-ing (1♀, UQIC); 8 km SSW Atherton (7♂, 1♀, UQIC); Bluewater, Paluma Ra., NW Townsville (1♀, UQIC); Biloela (1♂, QDPI); Marlong Arch, Mt Moffatt Nat. Pk (1♂, QM); Mt Moffatt [Moffatt] Nat. Pk (1♂, UQIC, 3♂, QM); sandstone hilltop 32 km S Theodore (10♂,

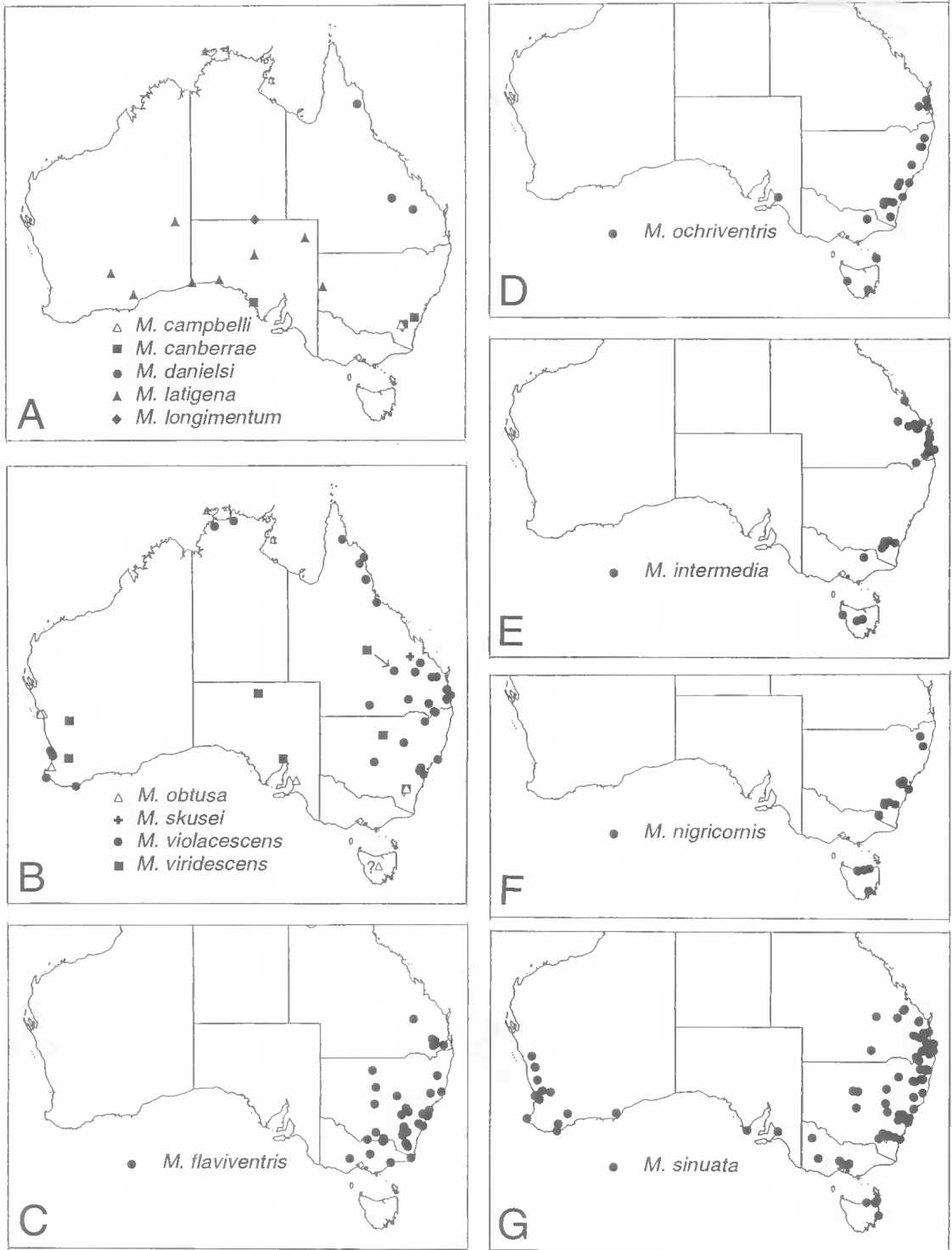


FIG. 7. A-G, Distribution of *Microtropesa* spp. in Australia.

UQIC); Isla Gorge Nat. Pk (1 ♂, UQIC); Mt Walsh Nat. Pk, north peak (1 ♂, ANIC); Bluff Ra. (1 ♂, ANIC); Gayndah (1 ♂, AM); Coast Ra., Biggenden (1 ♂, ANIC); Buderim Mtn, nr Mooloolah (1 ♂, BCRI); Mt Beerwah, via Glasshouse (2 ♂, UQIC); Glasshouse Mtns Lookout (1 ♂, UQIC); Moreton Is. (1 ♂, QM); Brisbane (2 ♀, QM, 2 ♂, QDPI); Palmerston (1 ♀, QDPI); Mt Gravatt (1 ♀, QDPI); Millmerran (2 ♀, ANIC, 1 ♀, UQIC); Cunnamulla (1 ♂, AM); Amiens, nr Stanthorpe (1 ♂, AM); Stanthorpe (1 ♂, QDPI, 1 ♀, UQIC); Palingyard (1 ♀, ANIC). New South Wales: Graman (1 ♂, BCRI); Warrumbungle Nat. Pk (2 ♂, AM); Bogan R. (2 ♀, 6 ♀, ANIC); Stephens Peak (3 ♂, QDPI); Round Hill Fauna Reserve (2 ♂, 1 ♀, AM, 1 ♀, GD); 6 km NE Bilpin, nr Kurrajong (1 ♀, AM); Hazelbrook (1 ♀, ANIC); East Minto (1 ♂, AM). Western Australia: Geraldton (1 ♂, SAM, 1 ♂, WADA, 1 ♂, 1 ♀, ANIC); Rottne Is. (3 ♂, 1 ♀, ANIC, 1 ♂, 1 ♀, WADA); Garden Is. (1 ♀, ANIC); White Lake, Rockingham (1 ♀, ANIC); Cape Peron, 40 km SW Perth (3 ♂, UQIC); 10 km N Mandurah (4 ♂, UQIC); Augusta (2 ♂, UQIC); King George Sound (2 ♀, AM). Other: no data (1 ♂, 4 ♀, QDPI).

DIAGNOSIS. Body length: 12.0–16.0 mm. ♂ cerci and surstyli as in Fig. 6A, B. A3 ovoid, orange, apex sometimes brown; pf and genae mostly with orange-yellow hairs, those on dorsal pf sometimes black; mesonotum, in dorsal view, with thin covering of whitish pollinosity; dorsal surface of scutellum with black hairs; wings grey, bases orange-yellow; ground colour of abdominal tergites dark, reddish-brown to black (often with bluish reflection); abdomen, in caudal view, usually with grey, pollinose markings as follows; T3 with anterior, pollinose band interrupted medially; T4 with median, pollinose triangle extended laterally as anterior band, T5 with pair of large, dark spots separated from anterior margin by pollinosity; T3 without mm.

REMARKS. In many specimens the grey, pollinose markings on the abdomen are thin and weak and only fully apparent when the abdomen is seen in caudal view. The anterior, pollinose band on T3 can be represented only by a pair of submedian spots, or is rarely absent.

Microtropesa viridescens Paramonov, 1951
(Figs 6C,D, 7B)

Microtropesa viridescens Paramonov, 1951: 765; Crosskey, 1973:135; Cantrell & Crosskey, 1989:762.

MATERIAL EXAMINED. HOLOTYPE ♂, Canberra, ACT, 7.ii.1948, Paramonov (ANIC). OTHER MATERIAL EXAMINED. Queensland: Mt Moffatt

summit, Mt Moffatt Nat. Pk (3 ♂, QM). NSW: Bogan R. (1 ♂, ANIC). S AUST: 5 km SW Mt Sarah HS, N Oodnadatta (1 ♀, ANIC); 20 [miles? = 32 km] SW Port Augusta (1 ♀, ANIC). WA: 15 km NE Mt Singleton (1 ♀, ANIC); Pinjarra (1 ♂, ANIC).

DIAGNOSIS. Body length: 10.8–12.0 mm. ♂ cerci and surstyli as in Fig. 6C, D. Pf and genae with orange-yellow hairs; palpi mostly yellow haired, occasionally with a few black hairs; mesonotum with uniform, thin covering of whitish pollinosity; wings hyaline with black markings at base; ground colour of thoracic pleura, scutellum and abdomen dark-brown or black; legs black; T3, T4 and T5 each with silver, pollinose, anterior band interrupted medially.

REMARKS. Females of *M. viridescens*, which have not been previously described, are similar to males but differ as follows: vertex, forc and mid tarsi wider; mesonotum with coppery-green reflection (greenish in ♂); abdominal ground colour shining black, with bluish (not greenish) reflection.

The only apparent difference between *M. viridescens* and *M. skusei* is the colour of the hairs on the palps. It is likely that *M. viridescens* is a junior synonym of *M. skusei* especially given that *M. viridescens* occurs at Mt Moffatt, about 200 km from the type locality of *M. skusei*.

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